

Appl. No. 09/594,873
Docket No. 14XZ00087/GEM-0277

REMARKS / ARGUMENTS

Status of Claims

Claims 1, 3, 5, 7, 9, 11 and 12 are pending in the application, and stand rejected. Applicant has amended Claim 1, and has added new Claims 13-14, leaving Claims 1, 3, 5, 7, 9 and 11-14 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §112, first paragraph, 35 U.S.C. §102(e), and 35 U.S.C. §103(a), have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

Rejections Under 35 U.S.C. §112, First Paragraph

Claims 1, 3, 5, 7, 9, 11 and 12 stand rejected under 35 U.S.C. §112, first paragraph, for "failing to comply with the enablement requirement." The Examiner alleges that it is not clear from the specification how a three-dimensional image is represented on a two-dimensional image.

Appellant respectfully disagrees with the Examiner's rejection for the following reasons.

With regard to enablement, the law does not require a specification to be a blueprint in order to satisfy the requirement for enablement under 35 U.S.C. §112, first paragraph. *Staehelin v. Secher*, 24 USPQ 2d 1513, 1516 (B.P.A.I. 1992) (citing *In re Gay*, 309 F.2d 769, 135 USPQ 311 (C.C.P.A. 1962)). It has been consistently held that the first paragraph of 35 USC 112 required nothing more than objective enablement... How such a teaching is set forth, whether by the use of illustrative examples or by broad descriptive terminology, is of no importance since a specification which teaches how to make and use the invention in terms which correspond in scope to the claim *must* be taken as complying with the first paragraph of 35 UC 112 *unless* there is reason to doubt the objective truth of the statements relied upon therein for enabling support. *Staehelin v. Secher*, 24 USPQ 2d 1513, 1516 (B.P.A.I. 1992) (citing *In re Marzocchi*, 439 F.2d 220, 169 USPQ 367 (C.C.P.A. 1971)) (emphasis in original).

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On page 1 of the application as originally filed, Applicant describes three-dimensional imaging per se to be known in the art of medical imaging. On page 3 of the application as originally filed, Applicant describes medical imaging procedures known in the medical imaging arts that result in three-dimensional imaging, such as magnetic resonance imaging, for example. In the medical imaging arts, it is also understood, and would be appreciated by one skilled in the art, that the term three-dimensional image means an image that is representative of a three-dimensional imaged object, and not merely a two-dimensional section view.

Throughout the application as originally filed, but specifically on page 5 and in the various figures, Applicant describes and illustrates the anatomical objects of blood vessel 2 and aneurysm 3 as being three-dimensional objects that are being imaged and displayed in an image that is representative of the three-dimensional imaged object.

While Applicant believes that the specification as originally filed clearly describes the claimed invention such that one skilled in the art would appreciate the scope of the claims to such a degree as to enable that person to practice the claimed invention, Applicant has nonetheless, in an effort to advance this case to allowance, amended Claim 1 to now recite, inter alia:

“A method of visualization of a three-dimensional image representative of a three-dimensional imaged object, the method comprising:

displaying the three-dimensional image in a display window; ...”

As such, Applicant submits that “displaying the three-dimensional image” means displaying the three-dimensional image that is representative of the three-dimensional imaged object.

Since the Examiner has not brought into question the objective truth of the statements relied upon in the specification for enabling support of the claims, and Applicant has provided clarifying remarks herein regarding where in the specification broad descriptive terminology is presented for enabling support of the claims, Applicant respectfully submits that the specification has been shown to clearly provide general guidelines as to the scope of the invention such that one of ordinary skill in the art would

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know what was meant, and that the subject matter of the invention has been described and is supported in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention and provided an enabling disclosure thereof, and therefore respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §112, first paragraph, which Applicant considers to be traversed.

Rejections Under 35 U.S.C. §102(e)

Claims 1, 3, 7 and 11-12 stand rejected under 35 U.S.C. §102(e) as being anticipated by Yanof et al. (U.S. Patent No. 5,734,384, hereinafter Yanof).

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*” *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, “[t]he identical invention must be shown in as complete detail as is contained in the *** claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements “arranged as in the claim.” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

Applicant has amended Claim 1 to now recite, inter alia,

“A method of visualization of a three-dimensional image representative of a three-dimensional imaged object, the method comprising:

displaying the three-dimensional image in a display window;

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selecting a point on an element of interest present in a part of the three-dimensional image, and subsequent thereto, moving the three-dimensional image within the display window in response to the selected point on the element of interest;

creating in the part of the three-dimensional image a finite volume whose dimensions are predetermined and whose center is the point on the element of interest present in the part of the three-dimensional image, an outside dimension of the finite volume being less than a width of the display window;

making an interactive intersection between the predetermined finite volume and the part of the three-dimensional image to isolate the element of interest in the three-dimensional image; and

displaying in the display window only the part of the three-dimensional image contained in the predetermined finite volume."

No new matter has been added by these amendments as antecedent support may be found in the specification as originally filed, such as at Pages 5 and 6, and in the various figures, for example.

Dependent claims inherit all of the limitations of the respective parent claim.

The Examiner alleges that Yanof anticipates each and every element of the claimed invention arranged as claimed.

At page 6, Paragraph 15, of the instant Office Action, the Examiner alleges that Yanof discloses displaying a three-dimensional image as Yanof teaches displaying a two-dimensional view of a three-dimensional image.

Applicant respectfully disagrees with the Examiner.

Throughout the instant Office Action, the Examiner makes extensive reference to Yanof Figure 2. However, in viewing the text associated with Figure 2, Applicant finds first port 22 of Figure 2 to display "*a thin transverse section* through an artery". Column 6, lines 16-17. As such, Applicant submits that Yanof teaches displaying a two-dimensional view of a two-dimensional section cut, and not of a three-dimensional image, as alleged by the Examiner.

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At page 6, Paragraph 15, of the instant Office Action, the Examiner alleges that Yanof teaches selecting a point of interest by considering the intersection of 28a and 30a of port 22 of Figure 2 to be the point of interest.

Applicant respectfully disagrees with the Examiner with respect to the Yanof "point of interest" being the same as the claimed point of interest.

As now claimed, Applicant describes selecting a point of interest, and then subsequent thereto moving the three-dimensional image within the display window in response to the selected point.

Here, Applicant is claiming a movement of the three-dimensional image that is preceded by and dependent upon the selecting of a point of interest.

Contrary to the claimed invention, Applicant finds Yanof to describe "Typically, the operator would adjust the viewing directions to view perpendicular to the artery at the blockage", which is of particular interest. Col. 6, lines 26-29.

Here, Applicant finds Yanof to move the window in order to view a point of interest, and not to select a point of interest and then move the window in response thereto.

At page 7, Paragraph 15, of the instant Office Action, the Examiner alleges that Yanof teaches making an interactive intersection by considering the port 44 of Figure 2 capable of changing a view of the image of interest.

Applicant respectfully disagrees with the Examiner with respect to the Yanof port 44 being the same as the claimed interactive intersection.

As claimed, Applicant claims making an interactive intersection *between the predetermined finite volume and the part of the three-dimensional image to isolate the element of interest in the three-dimensional image.*

Here, Applicant is not merely claiming a change in view, but an interactive intersection step that uses the predetermined finite volume and the part of the three-dimensional image to *isolate the element of interest* in the three-dimensional image.

In alleging anticipated of the claimed invention, the Examiner has failed to show where the reference teaches each and every element of the claimed invention arranged as

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claimed, especially the isolation of the element of interest, and therefore has not established a prima facie case of anticipation.

At page 7, Paragraph 15, of the instant Office Action, the Examiner alleges that Yanof teaches creating a predetermined finite volume whose center is the point by considering port 22 of Figure 2 to be the predetermined finite volume and the intersection of 28a and 30a to be the center point.

Applicant respectfully disagrees with the Examiner with respect to the Yanof port 22 being the predetermined finite volume.

As claimed, Applicant claims "creating in the part of the three-dimensional image a finite volume whose dimensions are predetermined and whose center is the point on the element of interest present in the part of the three-dimensional image, an outside dimension of the finite volume being less than a width of the display window".

Here, Applicant clearly describes the finite volume having a displayed image that is smaller than the display window.

In comparing Yanof with the claimed invention, Applicant finds the Yanof port 22 to be exactly the same size as the Yanof display window (port 22). Accordingly, Applicant submits that Yanof does not disclose each and every element of the claimed invention arranged as claimed.

At page 7, Paragraph 15, of the instant Office Action, the Examiner alleges that Yanof teaches visualizing only the part contained in the volume by considering that only what is contained in port 22 of Figure 2 is visualized.

Applicant respectfully disagrees with the Examiner with respect to the Yanof limited display is the same as the claimed limited display.

As now claimed, Applicant claims "displaying in the display window only the part of the three-dimensional image contained in the predetermined finite volume."

As such, Applicant is claiming a display window of a given size, and the display in that window of only a part of the three-dimensional image contained in the predetermined finite volume.

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In comparing Yanof with the claimed invention, Applicant finds port 22 to display the entire contents of the image in port 22, and to be absent the display of only a part of the three-dimensional image contained in the predetermined finite volume, which is specifically claimed for in the instant invention.

For at least the reasons set forth above, Applicant submits that Yanof does not disclose all of the claimed elements arranged as in the claim, and absent anticipatory disclosure in Yanof of each and every element of the claimed invention arranged as in the claim, Yanof cannot be anticipatory.

In view of the amendments and foregoing remarks, Applicant submits that Yanof does not disclose each and every element of the claimed invention arranged as claimed and therefore cannot be anticipatory. Accordingly, Applicant respectfully submits that the Examiner's rejection under 35 U.S.C. §102(e) has been traversed, and requests that the Examiner reconsider and withdraw of this rejection.

Rejections Under 35 U.S.C. §103(a)

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yanof as applied to Claim 1 above and further in view of Bamberger (U.S. Patent No. 5,970,164, hereinafter Bamberger).

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as the References fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

The Examiner acknowledges that Yanof is deficient in anticipating the claimed invention, and looks to Bambergerto cure these deficiencies.

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Dependent claims inherit all of the limitations of the respective parent claim and any intervening claim.

In view of Claim 5 being a dependent claim, in view of the amendments set forth above, and in view of Bamberger being applied only for its teaching of degraded mode displaying, Applicant submits that Bamberger fails to cure the deficiencies of Yanof as described above, and therefore cannot be used to establish a prima facie case of obviousness.

In addition to the foregoing, Applicant finds no motivation or teaching in any of the References to modify a primary Reference in view of its respective secondary Reference to arrive at the claimed arrangement of elements without disturbing the intended purpose of the art being modified (detailed and non-degraded display).

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to recognize a problem recognized and solved only by the present invention (display of three-dimensional imagery with element isolation and limited display of only the finite volume), fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, fail to teach a modification to prior art that does not render the prior art being modified unsatisfactory for its intended purpose, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §103(a), which Applicant considers to be traversed.

In light of the foregoing, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §112, first paragraph, 35 U.S.C. §102(e), and 35 U.S.C. §103(a), have been traversed, and respectfully requests that the Examiner reconsider and withdraw these rejections.

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Regarding New Claims 13-14

Applicant has added new Claims 13-14 to capture previously disclosed but unclaimed subject matter. No new matter has been added, as antecedent support can be found in the application as originally filed, such as at page 6, lines 22-23 (...parts outside the sphere 5 are cut), at Figure 2 (illustrating white space outside of volume 5), at page 6, lines 14-16 (An intersection is then made between the sphere 5 and the three-dimensional image and only the parts of the blood vessels contained in the sphere 5 are displayed), and at Figure 2 (illustrating the removal from the image displayed those elements 2a, 2b, part of 2c, part of 2e and 2f, outside of the volume 5).

In view of the remarks set forth above, Applicant submits the references of record fail to disclose, teach or suggest the claimed invention of the newly added claims, and that the newly added claims are allowable in light thereof. Such notice is respectfully requested.

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The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 50-2513.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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